

# ASSOCIATION OF ENGINEERING GEOLOGISTS

Southern California Section

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### NEWSLETTER - JULY/AUGUST 2002

#### **LUNCH MEETING**

Date: Thursday, August 15, 2002

Location: Dave and Busters, 71 Fortune Drive, Ste 960, Irvine, CA

In the Irvine Spectrum

Time: 11:30 a.m. - Social; 11:45 a.m. – Lunch; – 12:15 p.m.

**Presentation** 

Reservations: Call (714) 834-5679, or fax (714) 834-5106, or e-mail:

sonia.nasser@pfrd.ocgov.com by Noon, Friday,

August 9, 2002

Cost: \$30.00 per person with advanced reservations, \$40.00 at

the door, and \$10.00 for students w/ valid I.D., "No-

shows" will be billed \$10.00

JOINT MEETING WITH ASCE ORANGE COUNTY BRANCH (Please note the change in time reservation number – Please state that you are with AEG when you call in!)

SPEAKER: Eldon Gath

TITLE: Laguna Beach and the Evolution of Its Ocean Views: a 1.4 Million

**Year View** 

**ABSTRACT:** In the beginning there was water, and it went all the way to Asia. Then an island appeared, the San Joaquin Island. Time and time again waves battered the island, each time leaving their distinctive signature behind, before the sea mysteriously retreated for a hundred millennia; but always it returned. Strangely though, the sea never returned to the same place. Where it had once been was now 20-30 meters above where the sea now stalled in its rise back to the coast. What happened to California falling into the sea? Tectonics happened, and as it went on and on and on happening, neotectonics started happening. Neotectonics means paleoseismology, but then Gaspar de Portola arrived and it became seismology, which to the engineering geologist means seismic hazard, but to The Irvine Company means seismic risk. It is very complicated, but to everyone it simply means jobs. Jobs to the engineering geologist, jobs to the academic researchers, jobs and money from (but also to) the developers because they get something for nothing (elevation), and lots of money from (and but also to) the residents of Laguna Beach, because they can pay to see the sea. But there is a technical side to this, isn't there? (cont.)

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<u>et</u>

The San Joaquin Hills are an actively deforming structure in the southern Los Angeles basin of Orange County, defined by an elevated suite of 8 marine terraces. Detailed geomorphic mapping of the terraces was supplemented by accessing numerous engineering geological investigations around the San Joaquin Hills. Age control for the terraces was provided by Thorium-230 dating of marine corals from the second emergent terrace. Based on an age of 122 ky, this terrace was assigned to marine oxygen isotope stage 5e. Assuming a constant uplift rate of 0.25 m/ky (from the dated 5e terrace), the other terraces were plotted onto the eustatic marine sea level curves.

The San Joaquin Hills emerged from the Pacific Ocean approximately 1.4 Ma. Best fitting the geomorphic pattern of deformation to a structural model yields a 30° southwest-dipping, northeast-vergent blind thrust fault. Still undefined is the relationship to the offshore, strike-slip Newport-Inglewood fault, or how far south the thrust sheet extends. At a minimum however, the San Joaquin Hills thrust has sufficient fault plane area to generate a M6.7-7.3 earthquake. But, worry not for the local residents, because it is going to give them another (free) meter of elevation. Almost instantly!

**BIO:** Eldon Gath is the President of Earth Consultants International, a geological consulting firm formed in 1997. Eldon has nearly 20 years of professional consulting experience with southern California firms Pacific Soils Engineering and Leighton and Associates before forming ECI.

He received his BS in Geology from the University of Minnesota in 1978, and has been in and out of all southern California graduate schools ever since. Eldon is a past president of the South Coast Geological Society, a past national president of the Association of Engineering Geologists, and is currently serving on the National Research Council committee to develop a research agenda for the National Earthquake Engineering Simulation program. This talk is based on collaborative research led by Dr. Lisa Grant of UCI.

#### **CHAIR'S COLUMN**

#### **By David Seymour**

On Vacation! Look for Chair's Column in September Issue.

#### SEPTEMBER GUEST SPEAKERS

Our next meeting will be held at Stevens Steak House on Tuesday, September 10. As opposed to the usual "guest speaker", the Vice Chair would like to have many guest speakers to participate in a "Kaleidoscope of Speakers". Ideally, 6 to 8 members will participate.

The topic: "If I could do it over again". Members are invited to talk for 10 minutes, providing an overview of a project and explaining the changes they would make if they could do it over again. It gives us all the opportunity to learn. However, I am sure that there will be those of you who are not willing to disclose what you would change, so we invite those individuals to speak on what they would not change.

If you are interested, or have comments, please contact Lorraine Muto, Vice Chair at <a href="muto@arroyogeotechnical.com">lmuto@arroyogeotechnical.com</a> Thank you and please, don't be shy!

#### **ELECTRONIC NEWSLETTER AND WEBSITE**

There are still a significant percentage of members that are receiving the paper version of the newsletter. In order to set up and maintain a website, etc., we **MUST** reduce mailing costs. For those that receive the paper version, we encourage you to contact Jeff Kofoed to request the electronic version of the newsletter. The eissue is in Adobe Acrobat Reader, identical to the paper version, printer friendly, with software free at <a href="https://www.adobe.com">www.adobe.com</a>.

#### 2007 ANNUAL MEETING

Our 2007 Annual Meeting co-chairs Jeff Keaton and David Seymour, along with Julie Keaton, Annual Meeting Manager, are still reviewing the incoming proposals. We'll keep you posted once a site is selected.

#### MEMBERSHIP RENEWAL

If you are unsure about your membership status, please contact AEG Headquarters <u>aegweb.org</u>, **Jeff Kofoed**, Secretary, or **David Seymour**. We are currently looking for a new Membership Chair. Please contact **David Seymour** if you wish to volunteer.

#### YEAR 2002 CONTRIBUTORS

Our special thanks to:

# Earth Consultants International, Inc. Robertson Geotechnical, Inc.

#### YEAR 2002 CONTRIBUTORS NEEDED

Contributions from corporations and individual members for 2002 are greatly appreciated. Contributors will be listed in our newsletter throughout the year and can post their logo or business card in the newsletter if so desired. Please mail contributions made out to **AEG** to our section chair, David Seymour, 26276 Buscador, Mission Viejo, CA 92962.

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Business Card	\$10/month	\$100/year
¼ page	\$20/month	\$200/year
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Full page	\$50/month	\$500/year

#### <u>FIELDTRIP AND MEMBERSHIP CHAIRS</u> <u>NEEDED!</u>

We are still looking to fill both chair positions. If you would like to volunteer, or have any fieldtrip ideas, please contact <u>David Seymour</u>.

#### YEAR 2002 MEETING SCHEDULE

<u>Date</u>	<u>Speaker</u>	<u>Location</u>
August	Eldon Gath	Dave & Busters
Sept.	TBA	Steven's
		Steakhouse
October	TBA	TBA
November	TBA	TBA
(Joint w/		
IGS)		
December	NO MEETING	

# AEG SOCAL SECTION COMMITTEE CHAIRS

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LGC is looking for dynamic individuals to join our team and work on some of Orange County's most interesting and technically challenging projects. If you are an experienced geotechnical professional, or just starting your career, please do not hesitate to contact us. All inquires will be considered in the utmost confidence. We look forward to hearing from you.

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TITLE / DESCRIPTION	PRICE	QTY	TOTAL
Baldwin, J.E. and Sitar, N., 1991, Loma Prieta Earthquake: engineering geologic perspectives, AEG Special Publication No. 1, 170p	\$10.00		
Bishop, K, and Tandy, 1995, <b>Ground Failure during the January 17, 1994 Northridge earthquake:</b> Association of Engineering Geologists, Southern California Section, Annual Field Trip Guidebook, November 11, 1995, 106p.	\$20.00		
Briggs, R.P. and Parke, C.D., 1990, <u>Guide to Field Trips in Pennsylvania</u> , <u>Ohio, and West Virginia</u> , AEG 33 <sup>rd</sup> Annual Meeting, October 1-5	\$15.00		
Highway and Railroad Slope Maintenance: AEG, 34 <sup>th</sup> annual meeting, September 29 <sup>th</sup> – October 4 <sup>th</sup> , 1991	\$10.00		
Leighton, F.B. <u>Mitigation of geotechnical litigation in California:</u> Munson Book Associates, Huntington Beach, California, 274p.	\$20.00		
Sieh, K.E., and Matti, J.C., 1992, <u>Earthquake geology</u> , <u>San Andreas fault system</u> , <u>Palm Springs</u> <u>to Palmdale</u> : AEG, 35 <sup>th</sup> Annual Meeting, Field Trip Guidebook, October 3-4, 1992	\$10.00		
Stout, M.L., ed., 1992, <u>Proceedings of the 35<sup>th</sup> annual meeting</u> , <u>Association of Engineering</u> <u>Geologists</u> , October 2-9, 1992: 740p.	\$5.00		
Tepel, R, 1995, <u>Professional Licensure for Geologists, an Exploration of Issues,</u> Association of Engineering Geologists Special Publication No. 7, 1995	\$12.00		
Cann, L.R., Cobarrubias, Hollingsworth, B., 1992, Engineering Geology Field Trips Orange County, Santa Monica Mountains, and Malibu: AEG 35 <sup>th</sup> Annual Meeting, Field Trip Guidebook, October 2-9, 1992	\$10.00		
Los Angeles Metro Rail System Field Trip Guidebook, Association of Engineering Geologists, 35 <sup>th</sup> Annual Meeting October 2-9, 1992 Long Beach, California	\$10.00		

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